

Remarks

Claims 1-6 and 8 are presented for examination. Claims 7 and 9 have been withdrawn from consideration as a result of applicants' election following a restriction requirement.

Claims 3, 4, 6 and 8 have been amended as suggested by the examiner. It is respectfully submitted that as amended, the objections raised by the examiner have been met.

Claims 1 and 6 have also been amended as suggested by the examiner. As currently amended, it is respectfully submitted that applicants' claims are in compliance with 35 U.S.C. 112.

Applicants' Claim 2 has been amended to add the recitation that the internal seal is defined by direct contact between external surfaces of the first and second tubular bodies without an intermediate sealing member.

Applicants' Claim 6 has been amended to call for an internal metal-to-metal seal formed integrally on the external surfaces of the first and second tubular bodies.

Applicants' Declaration has been determined to be defective by the examiner and a new Declaration has been requested. This determination that the Declaration is defective is respectfully traversed. While the Declaration was filed in response to a Notice To File Missing Parts, the Declaration was executed before applicants' were aware of the serial number that had been accorded the Patent application.

It is not understood that the cited portions of the C.F.R. and M. P. E. P. require that the serial number of an application be included in the Declaration. The Declaration identifies the application by filing date, previous Provisional Patent Application Serial No., inventors' names,

and the title of the invention. It is respectfully submitted that there can be no doubt as to the application to which the Declaration refers.

It is respectfully submitted that the Declaration as presently submitted is in all aspects in compliance with the pertinent requirements of the Code of Federal Regulations and the cited sections of the Manual of Patent Examining Practice.

Applicants' claims 1-6 and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over *Evans* in view of *Feisthamel*. This rejection is respectfully traversed.

Applicants' independent Claims 1 and 6, as originally presented, call for the pin and box threads to be confined between the external and internal seals when the pin and box are engaged. It is respectfully submitted that neither *Evans* nor *Feisthamel*, nor any appropriate combination thereof, teach such a structure. *Evans* lacks an internal seal altogether and the pin threads of the *Feisthamel* connection cut into the internal seal. With regard to this latter point, the examiner's attention is directed to page 2, column 1, line 42 *et seq.* of *Feisthamel* noting that the packing ring is "radially compressed into the threaded grooves" of the casing section.

It is also respectfully submitted that even if the combined teachings of *Evans* and *Feisthamel* were considered to anticipate applicants' claims 1 and 6, there is no teaching or suggestion in either reference that their features could be combined to create a connection having an internal and external seal such as claimed by applicants.

It is respectfully submitted that the *Feisthamel* connection provides internal and external seals by using separable, compressible packing rings that are set within grooves and are compressed radially and longitudinally when the connection is fully made up. The *Feisthamel* connection achieves its internal seal by driving the pin end against a separable internal packing

ring. By contrast, *Evans* discloses only an external seal, which is achieved with the use of a layer of metal that is rigidly affixed to the external surface of the pin connection. *Evans*' external seal does not rely on compression of a separable compression ring as does *Feisthamel*.

The *Evans* Patent also expressly teaches away from the use of an internal compression seal of any type. See page 1, column 2, lines 9 et seq of *Evans* stating "The threads upon the joint member extend inwardly a distance sufficient to allow the tight screwing up of the joint without the formation of a shouldered contact between the pipe and the tool joint." It is evident that *Evans* wishes for all of the compressive forces exerted in the making up of his connection to be applied at the external seal. *Feisthamel*, on the other hand, must apply such forces against both the internal and external sealing areas to achieve his desired result.

It is respectfully submitted that applicants' dependent claims 2-5 and 8 distinguish over the combined teachings of *Evans* and *Feisthamel* for the reasons hereinbefore submitted with regard to their respective parent claims 1 and 6.

As now amended, claim 2 further distinguishes over the proposed combination of references in calling for direct contact between external surfaces of the first and second tubular bodies without an intermediate sealing member. As previously noted, *Feisthamel* employs a separable compressible packing ring for his internal seal and *Evans* lacks an internal seal.

Applicants' Claim 3 calls for the pin seal surface to be formed on an "annular metal ring comprising said metal seal base" that is "secured to" the first tubular body. The *Evans* Patent teaches that his external seal is "deposited upon" the pipe by means of spraying the molten metal of the layer in position over the area to be covered or positioned by other means such as welding.

Applicants' Claim 8 calls for an external seal comprising a separately constructed annular body of metal secured on the pin end of the first tubular body wherein the body of metal is provided with a hemispherical cross-section to provide a line contact seal surface with the box end of the second tubular body. The examiner contends that the weld beads discussed by *Evans* as a method of depositing his external seal on the pipe respond to applicants' Claim 8 calling for a hemispherical cross-section to provide a line contact seal surface. This contention is respectfully traversed.

The process of forming *Evans* seal with well beads requires that the deposited material be machined to form the frusto-conical sealing surface illustrated in the *Evans* Patent. See page 1, column 2, line 31 *et seq* of *Evans* stating "When the surface on the pipe has been thus cleaned the metal is sprayed thereon to the desired thickness and when cooled may then be machined to a smooth and tapered outer circumference which will be of sufficient thickness to engage with the inner tapered surface of the tool joint box. " There is no teaching or suggestion in *Evans* that a separately constructed annular body of metal with a hemispherical cross-section can provide a line contact seal. It is respectfully submitted that such a teaching is to be found only in applicants' specification. Moreover, provision of a line contact seal in the *Evans* connection would defeat the stated purpose of protecting threads of the connection from lateral strains or stresses which may develop in the operation of the drill stem.

With respect to the rejection of applicants' claims under 35 U.S.C. §103 based on the combined teachings of multiple prior art references, it is respectfully submitted that the proposed combination of prior art teachings does not render applicants' claims unpatentable. Moreover, it is respectfully submitted that the only suggestion for combining the features of the prior art in the

manner suggested in the rejection of applicants' claims is derived from applicants' specification and not the prior art.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP §2143 - §2143.03 for decisions pertinent to each of these criteria.

"To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)

Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

Applicants have also pointed out that the proposed combination of prior art teachings suggested in rejecting applicants' claims would render the individual devices of the references unsuited for their intended usage.

If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

It has also been noted by applicants that even when the prior art teachings are combined in the manner suggested in rejecting applicants' claims, the resulting combination fails to meet all of the limitations of applicants' claims.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970).

In view of the foregoing argument and authority, it is respectfully submitted that this application is in condition for allowance and such action is respectfully requested. It is also

respectfully submitted that allowance of the generic claims in this application provides basis for
inclusion and allowance of claims 7 and 9 in this application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Carlos A. Torres". The signature is fluid and cursive, with a large initial "C" and "A".

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